

REMARKS

Claim 50 has been amended to require bringing the solid material in contact with deionized water at a temperature between 120°C and 175°C after at least partial crystallization and calcination have occurred. The dependent claims have been amended to conform to claim 50 as amended. No new matter has been added through these amendments.

Claims 50-70 are currently pending, although claims 68-70 have been withdrawn. Upon indication of allowable subject matter, Applicants currently intend to seek rejoinder of at least one of the withdrawn claims as appropriate.

The Office Action rejected claims 50-67 under 35 U.S.C. § 103 as obvious over U.S. patent 5,919,430 (“US 430”) or PCT patent application publication no. WO 94/02245 (“WO ‘245”). In view of the following remarks, Applicants respectfully request reconsideration and withdrawal of these rejections.

The claimed invention relates to processes where the solid material separated from its mother liquor is calcined prior to subjecting the solid material (or shaped body obtained from the solid material) to the required water treatment. Also, the claimed invention requires at least partial crystallization of the solid material prior to the required water treatment. The claimed invention relates to processes (or products obtained by such processes) in which template compounds are removed from solid material (by calcination) prior to the required water treatment. The applied art neither teaches nor suggests this invention.

Regarding US ‘430, the Office Action asserted that this reference discloses that TS-1 granules are washed with deionized water after separation from the mother liquor. However, Applicants respectfully submit that this interpretation of US ‘430 is incorrect.

In col. 5, lines 7-20 of US ‘430, a spray drying process is described. From this spray drying, granules are obtained which are subsequently treated at elevated temperature (optionally in steam). These granules are not TS-1 granules.

As explicitly pointed out in col. 5, lines 18-19, the optional steam treatment step is a hydrothermal reaction. One of ordinary skill in the art would recognize that such a hydrothermal reaction forms a zeolite (given the mixed oxide and template compound starting materials). (See, also examples 3 and 4: example 3 (lines 7-9) states that the microgranules are crystallized for 24 h at 175°C; example 4 (lines 33-34) states that crystallization of the microgranules occurs at 180°C). Clearly, US '430 describes a process in which microgranules are formed by spray-drying, but such compounds do not contain the desired zeolite. The zeolite is formed only after hydrothermal treatment which allows for crystallization (see, col. 7, lines 5-6).

In stark contrast, the present invention includes water treatment at 120-175°C of an already crystallized and calcined zeolite. Thus, the present invention relates to a completely different process than that in US '430 which utilizes hydrothermal treatment to effect crystallization. Stated another way, one of ordinary skill in the art, based on the disclosure in US '430, would not have been led to treat an already crystallized material with deionized water at 120-175°C. Thus, US '430 would not have led one of ordinary skill in the art to the present invention. US '430 actually teaches away from the present invention.

Regarding WO '245, "steam treatment" in this reference is defined in the footnotes to Table 2 at page 11 (see, page 10, lines 17-18 which indicates that experiment 7 illustrates the steaming process). In the footnotes of experiment 7, "ss" relates to heating a catalyst at 700°C under nitrogen flow, and a water flow of plus/minus 50 ml water per g of catalyst and per hour is passed through the catalyst bed during 1 hour. Thus, the water treatment in WO '245 is carried out under severe conditions -- 700°C. Nowhere does WO '245 indicate that water treatment can occur under less severe conditions.

In stark contrast, the water treatment of the present invention is performed at much milder conditions (120-175°C). Thus, the present invention provides an improved process

which allows increasing catalyst performance under much milder conditions. Stated another way, one of ordinary skill in the art, following WO '245, would not be led to a water treatment process under mild conditions. Rather, following WO '245 would lead to water treatment processes under harsh conditions, with no indication whatsoever that using more mild conditions would result in a suitable process. WO '245 actually teaches away from the claimed invention.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §103.

Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

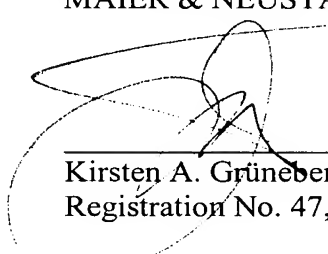
Respectfully submitted,

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